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Monthly Statistical Report

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NOVEMBER 1989

SUMMARY

Total deliveries' year-to-year declines continue to accumulate for 1989, with November's 1.7 percent decrease the fifth monthly drop in a row so far this year. The only major product to show an increase was kerosine jet fuel; distillate fuel oil deliveries were flat, while deliveries of gasoline, residual fuel oil, and "other oils" all continued the declines of recent months. These developments strengthen the evidence that the upward trend in consumption which has persisted since the early 1980s has shifted in the latter part of 1989 to one that is flat at best.

Despite the recent weakness in demand, the dropoff in domestic crude oil production has still exceeded the deliveries decline, so that the trend towards higher imports has been continuing. For November, crude oil production fell over 540 thousand B/D, with Alaskan production contributing 95 thousand B/D to the decline.

Imports dipped slightly from the prior month's level as inventories were drawn upon more than usual for November, but were still up by 5.4 percent or 410 thousand B/D from a year ago. For the year to date, imports have risen 8.6 percent or more than 600 thousand B/D.

Refining activity in November decreased slightly from October's level, contrary to the usual seasonal increase observed in recent years; input to distillation units, however, was still up 0.7 percent from one year earlier. Distillate production rose 5.3 percent to over 3 million B/D, continuing recent months' pattern of year-to-year output increases.

November's 6 million barrel decline in total inventories also contrasted with the more common seasonal increase. Crude oil stocks, however, rose to 353 million barrels, the highest level since mid-1988. For distillate stocks, the month-end level of 123 million barrels was one of the lowest levels for November in many years. However, data for recent years shows that inventory drawdowns have played a relatively small part in the winter supply picture and that the refining industry has normally not been called on to produce distillates at maximum rates during the peak of the heating season.

PRODUCT SUPPLIED [1/]

Gasoline

DELIVERIES DROP AGAIN. Gasoline deliveries, having declined year to year for almost every month since April, fell again in November by 1.4 percent. The effects of higher prices have been at least partly responsible for the weakness in deliveries over the period. Because of the roughly 20 cent increase in retail prices during the first five months of the year—attributed to a lagged response to the earlier rise in crude oil costs--inflation-adjusted pump prices reached a level about 11 percent higher in May than for one year earlier.

Since that time, retail prices have drifted downwards, falling by about 10 cents per gallon over the past six months. By November, inflation-adjusted retail prices were only an estimated 2 to 3 percent above a year ago. Based on past experience, it would be expected that any lagged effects of the earlier price rise on consumption would by now be diminishing.

In fact, the effect of the retreat in retail prices has already been apparent in a related area, namely, premium unleaded's market share. Premium, which had lost about 3 percentage points of its early-1989 share of 25 percent as some consumers had shifted to lower-priced alternatives, is estimated to have regained about half of that loss by November. Premium's share may also have been held back by the increasing availability of midgrade unleaded, whose share is currently estimated at 8 to 9 percent.

But while the downward influence of retail prices on consumption has been receding, the effect of the economy's slowing growth has apparently been increasing. The third quarter's growth is now estimated to have slowed to 2.7 percent (quarter to quarter) from 4.4 percent last year; by most estimates, the fourth quarter's growth has so far been even smaller, though by how much remains less clear. Despite the uncertainties, it is apparent from the deliveries data that gasoline consumption has flattened and may even have declined slightly in recent months.

	API ESTIMATES			
	NOVEMBER		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	17.3	(1.7)	17.1	(0.5)
Crude production[2/]	7.5	(6.8)	7.6	(6.6)
Total imports[3/]	8.0	5.4	7.9	8.6
Stocks (million bbl)[4/]	1,088	1.4	na	na

Although gasoline accounts for more than two thirds of petroleum products used for transportation, it has contributed little to the overall growth in transport fuels over the past decade, as the accompanying background article points out (see page 5).

Distillates

CONSUMPTION GROWTH APPEARS TO MODERATE.

Distillate deliveries for the month were unchanged from last November, while other indicators continue to suggest only minor growth in consumption. The comparison with year-ago deliveries is complicated by several partially-compensating factors, however. Last November's deliveries were perhaps 120 thousand B/D higher than would have been expected based on weather and the then-existing trend, depressing this November's calculated year-to-year change.

However, weather this November, mainly because of a cold snap towards the end of the month, was roughly 10 percent colder than the relatively mild November a year ago. This is estimated to have boosted deliveries this November by nearly enough to compensate for the anomaly in year-ago deliveries, so that, adjusted for these two complicating factors, deliveries would have risen by perhaps half a percent.

If there is growth to be found among distillate fuel oil's end-use sectors, it is not likely to be in heating demand. Residential and commercial use has been relatively stable in recent years, usually running at 760 to 770 thousand B/D annually. Except for temporary weather effects, there is little reason to believe that this has changed significantly this year. On-highway diesel and industrial usage, which had been contributing to distillate fuel oil's growth earlier, have apparently been moderated by the recent slowing in the economy's growth rate. Thus, it appears that underlying consumption most recently has been running around 1-1.5 percent.

Residual Fuel Oil

DOWN, BUT BY LESS, FOR NOVEMBER.

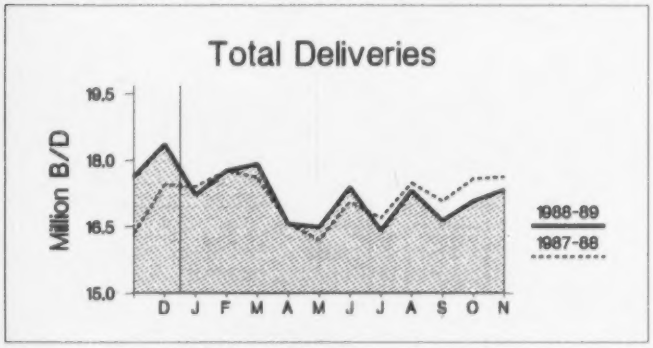
Though a drop in deliveries of 10.8 percent would not likely be described as a sign of strength, it is still less of a decline for residual fuel oil than the decreases in the 15 to 20 percent range of the previous three months. In fact, were it not for the exceptional strength in deliveries late last year, this November's residual fuel oil deliveries would have been the highest for the month since 1986.

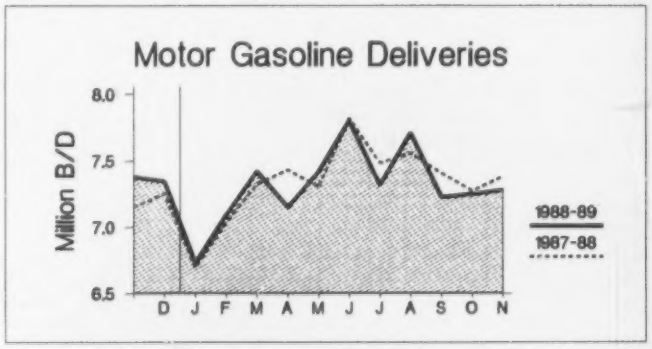
With spot gas prices rising by month-end to around $2 per mcf in some cases, fuel substitution appears to have been moving in the direction of residual fuel oil in the utility and industrial sectors. Colder weather than last year likely contributed further to increased residual fuel oil usage at eastern utilities towards the end of the month. In vessel bunkering, some markets were apparently still benefiting from a price advantage over foreign sources.

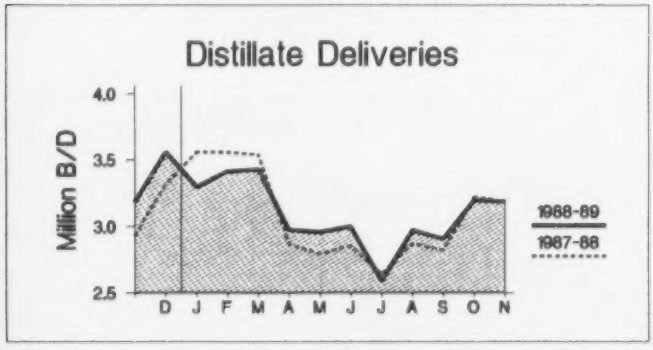
Kerosine Jet Fuel

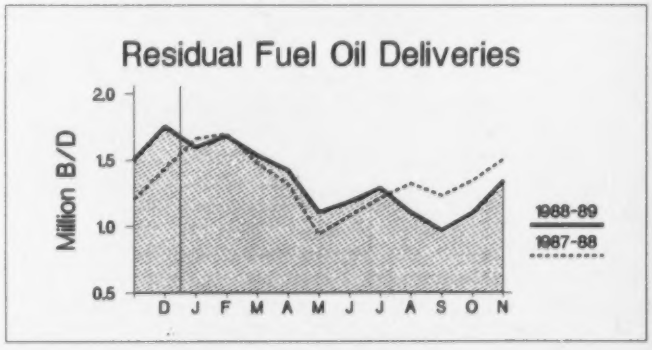
INTERNATIONAL TRAVEL BOLSTERS CONSUMPTION.

The vacillations in kerosine jet fuel deliveries of the past several months continued in November. Deliveries had been









up strongly in September, down in October, and now, for November, up again by 6.1 percent. Air traffic growth, however, has apparently been moving along slowly but steadily, with the rate of increase in miles flown running at an estimated 1 to 2 percent.

What growth there is in air traffic continues to be attributable more to foreign than to domestic operations. Miles flown domestically in recent months are estimated to have been more or less flat versus one year earlier, while travel involving international destinations has continued to make gains on the order of 10 percent, year to year. Though these recent gains in international traffic have still been strong, they represent a significant falloff from last year's 17 percent average growth rate.

Other Oils

DEMAND'S WEAKNESS CONTINUES. November's 2.9 percent, year-to-year decline in deliveries of other oils was smaller than the decreases for previous months, but there is little reason, given the underlying fundamentals, to believe that the smaller decline signifies a change in underlying consumption's weakness.

Though colder weather than last November likely boosted propane demand in November, the deceleration in economic growth during the past several months has had a broad effect on the demand for many of the products derived from petroleum-based petrochemical feedstocks, for which demand continues to be weak. Slower economic growth has also likely softened demand for other products in the "other oils" category as well. With year-to-year gains in refinery activity having slowed in November, the refinery gas portion of the "other oils" balance (averaging nearly 700 thousand B/D so far this year) has likely also moderated. All of these factors suggest that the demand for "other oils" has continued to decline unabated.

SUPPLY [1/]

Production

ALASKA AND LOWER 48 BOTH DROP. Domestic crude oil production continued to fall in November, dropping more than half a million B/D or 6.8 percent versus one year earlier. Lower 48 production fell nearly 450 thousand B/D or 7.5 percent, while Alaskan production fell by 95 thousand B/D or 4.7 percent. Because of both the reversal of Alaska's previous upward trend and an acceleration in the lower 48's decline, the dropoff in domestic production this year has been running at more than double the rate of last year's 210 thousand B/D decline.

Imports

PRODUCTS FALL, BUT TOTAL RISES. Total imports remained above 8 million B/D in November, although they dipped slightly from the prior month as inventories were drawn down at a rate of almost 200 thousand B/D. Year to year, the month's imports were up 5.4 percent or 410 thousand B/D.

Distillate imports, at 320 thousand B/D, nearly reached last November's high level. But for products overall, imports were off 25 percent from the unusually strong level a year ago. For the year to date as well, product imports' decline of about 5 percent or a little over 100 thousand B/D, year to year, partly reflects the strength of product imports last year.

Prior to last year, growing domestic demand had helped to boost product imports by roughly 75 thousand B/D per year, on average. Last year, however, product imports jumped nearly 15 percent or almost 300 thousand B/D. This year's year-to-date product imports, as currently estimated, are roughly in line with the earlier trend, having risen approximately 185 thousand B/D versus the same period two years ago.

It should be noted that there has been a tendency for Department of Energy data on product imports (which make up the bulk of the 1989 year-to-date figure) to be revised upwards when the final data are published the following year. As a result of the uncertainty that this adds to currently available data, it is possible that this year's product imports (and hence, product deliveries) could ultimately turn out to be higher than the current data show.

Refinery Operations

DISTILLATE YIELDS UP FROM A YEAR AGO. Refinery activity in November, contrary to the seasonal increase which has been common from October to November, dipped slightly from the prior month—and compared with a year ago, input to distillation units, partially reflecting the weakness in deliveries, rose only 0.7 percent. Still, utilization of operable capacity averaged over 86 percent for the month, or about 89 percent if calculated on the basis of capacity in actual operation.

Reflecting the softness in gasoline deliveries, output of that product dropped about 1 percent from last November. Distillate production, however, rose 5.4 percent. The large gains in residual fuel oil production for October continued in November, with output jumping nearly 20 percent, year to year. Most of the increased output of the past two months has been concentrated in the Texas and Louisiana Gulf Coast.

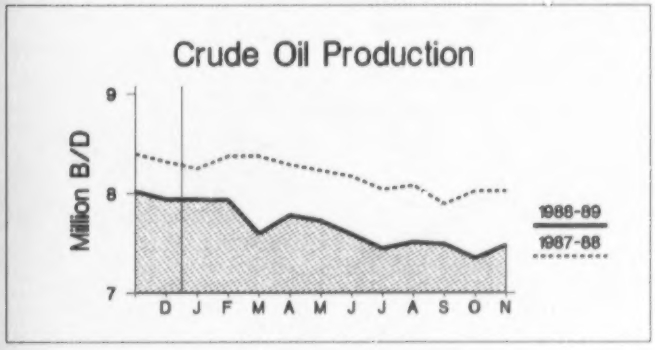
Inventories

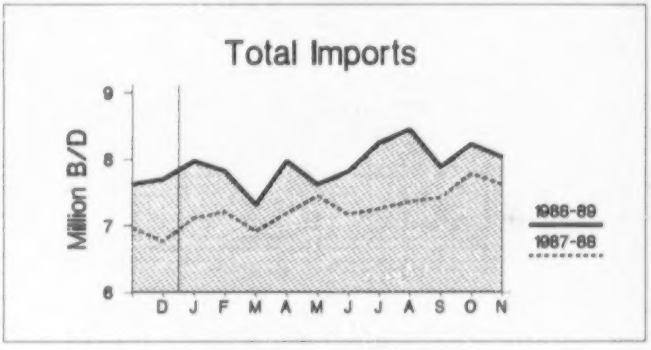
CRUDE STOCKS UP, PRODUCTS DOWN. The 6 million barrel decline in total stocks during November contrasts with a build which has averaged about 10 million barrels in recent years. Crude stocks, reflecting the moderating pace of refinery activity, rose 10 million barrels while overall product inventories declined. Month-end crude stocks, at 353 million barrels, were at the highest level since mid-1988.

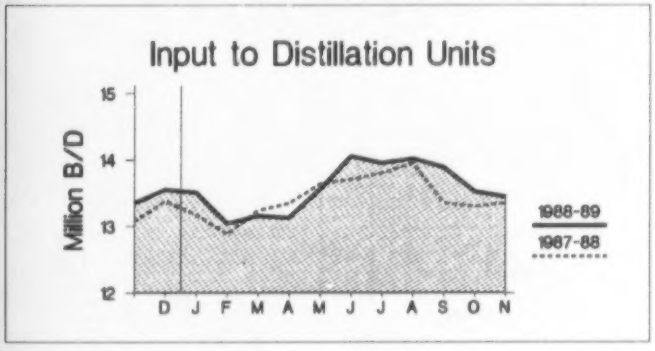
Distillate stocks rose 3 million barrels to 123 million barrels, and gasoline stocks were nearly unchanged from October's level at 223 million barrels.

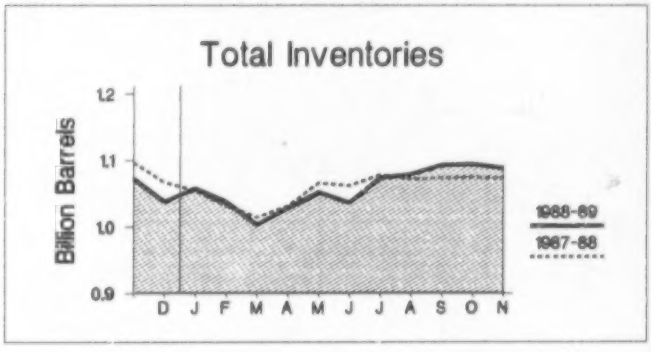
Though distillate stocks at the end of November were at the lowest level for that month for many years, the significance of inventories in overall distillate supply has been small in recent years. Over the previous five October-March seasons, inventories have supplied an average of only about 6 percent of deliveries. Refinery production has been the main source of supplies, at 88 percent, and net imports have supplied the remainder.

In view of the major role that refineries have played in distillate supply, past refining and inventory patterns also suggest that the refining industry as a whole has typically not been pressed to the limits in producing distillate during peak demand periods. Though distillate deliveries regularly reach their highest level in January or February, refinery production during those months has usually been less than levels occurring earlier in the season. This indicates that refiners have typically had the flexibility to increase output during the peak season should unusually cold weather spur heating oil demand.









1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 580 million barrels as of November 30, 1989).

THE ROLE OF TRANSPORT FUELS IN PETROLEUM DEMAND

Of total U.S. petroleum consumption, the largest and most rapidly growing segment consists of transport fuels. The main transport fuels include gasoline, portions of distillate fuel oil, jet fuel and a small volume of residual fuel oil. Gasoline, by far the largest segment of transport fuels, has shown a decline in its percentage of the transport market during the past decade. Residual fuel oil's share has also declined. Distillate and jet fuel, on the other hand, have continuously increased their share of transport fuels. There are also other transportation-related products such as lubricating oil, asphalt, and some petrochemical feedstocks whose consumption is indirectly related to transportation fuel usage.

In 1988, transport fuels accounted for 63 percent (almost 11 million B/D) of total oil consumption. Ten years ago this share was 55 percent — implying an increase of almost 8 percent. During this same decade total petroleum demand declined by 7 percent. The non-transport sector of consumption saw decreases in residual fuel oil used for industrial purposes and electric utilities, due to fuel switching, and in the heating oil segment of distillate fuel oil.

Motor gasoline comprises more than two-thirds of transport fuel usage. In contrast to the increase for transport fuels overall, gasoline consumption in 1988 at 7.3 million B/D was nearly the same as in 1979. During the early 1980's gasoline deliveries declined in the face of higher prices and a recession. Although gasoline consumption has increased steadily since 1983, the rate of increase has been half that of distillate and only about one-fourth that of jet fuel. Even though both the number of vehicles on the road and the number of miles traveled increased more than 20 percent each, increased fuel efficiency has meant that gasoline consumption is no higher than it was ten years ago.

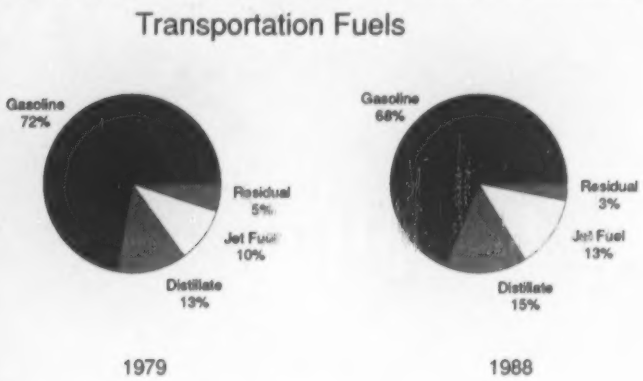
Transport-related distillate fuel oil, made up of portions used by railroads, ships and on-highway diesel, now accounts for over 15 percent of all transport fuel usage. Transportation distillate increased 29 percent (over 370 thousand B/D) in the past ten years, due primarily to the growth in on-highway diesel consumption. On-highway diesel usage has grown by about half over the last ten years and now comprises almost 80 percent of transportation distillate use compared with 70 percent in 1979. The strength of the U.S. economy has increased truck shipments, leading to the diesel growth.

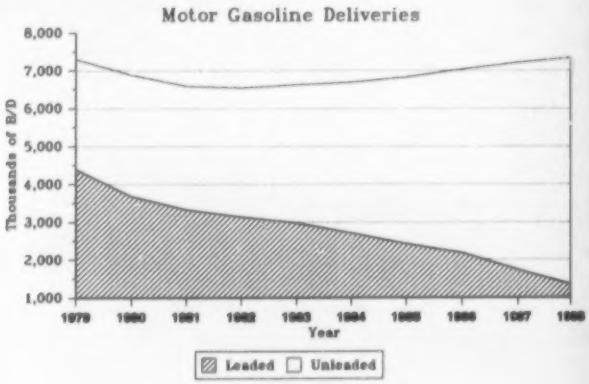
Jet fuel showed the largest percentage increase in the last ten years, up almost 35 percent (over 370 thousand B/D). Jet fuel's share of total transport fuels increased from ten and a half percent in 1979 to almost thirteen and a half percent in 1988. This growth corresponds with higher volumes of both passenger travel and cargo traffic.

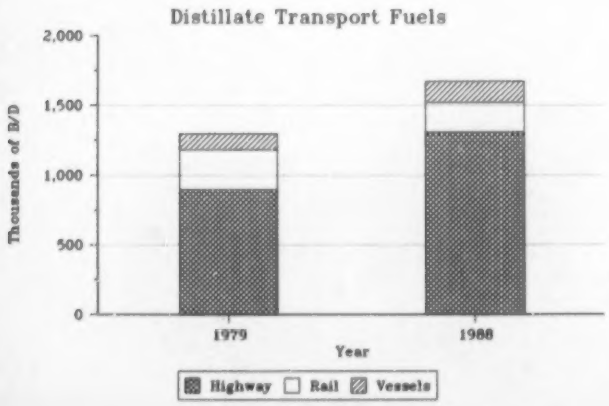
Residual fuel oil used as bunker fuel posted a decline for the decade. Bunkers' share of transport fuels dropped from 5 percent in 1979 to 3 percent in 1988. Volumetrically, bunkers declined over 180 thousand B/D or almost 35 percent.

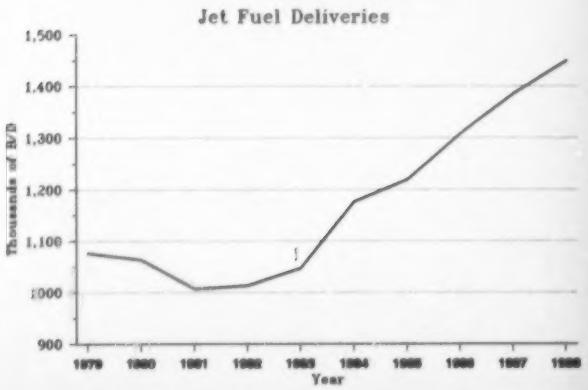
Petroleum products related, but less directly, to transportation include an estimated 90 thousand B/D of lubricating oils for 1988, about 400 thousand B/D of asphalt, and a portion of products derived from petrochemical feedstocks.

In summary, transport fuels account for almost 63 percent of total petroleum demand. These fuels, combined with products indirectly related to transport, constitute an estimated two-thirds of all oil used in the U.S. today.









ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	NOVEMBER			YEAR-TO-DATE		
	1989[1]	1988[2]	% Change	1989[3R]	1988[2]	% Change
Products Supplied:						
Total motor gasoline	7,276	7,379	(1.4)	7,307	7,336	(0.4)
Finished leaded motor gasoline*	619	1,221	(49.3)	854	1,361	(37.3)
Finished unleaded motor gasoline*	6,657	6,158	8.1	6,453	5,975	8.0
Naphtha-jet	217	218	(0.5)	211	211	-
Kerosine-jet	1,295	1,221	6.1	1,251	1,229	1.8
Distillate fuel oil	3,182	3,183	-	3,080	3,081	-
Residual fuel oil	1,342	1,504	(10.8)	1,300	1,343	(3.2)
All other oils[4]	4,165	4,290	(2.9)	4,101	4,141	(1.0)
Reclassified[5]	- 148	- 175	(15.4)	- 160	- 158	1.3
Total domestic products supplied	17,329	17,620	(1.7)	17,090	17,183	(0.5)
Exports	838	717	16.9	835	798	4.6
Total products supplied	18,167	18,337	(0.9)	17,925	17,981	(0.3)
Supply:						
Domestic production:						
Crude oil[6]	7,480	8,023	(6.8)	7,621	8,158	(6.6)
Natural gas liquids	1,512	1,666	(9.2)	1,572	1,624	(3.2)
Other supply[7]	948	961	(1.4)	937	898	4.3
Total domestic supply	9,940	10,650	(6.7)	10,130	10,680	(5.1)
Imports:						
Crude oil, total	6,039[10/]	4,981[10/]	21.2	5,776[10/]	5,042[10/]	14.6
Canadian	569	707	(19.5)	612	683	(10.4)
Other	5,470	4,274	28.0	5,164	4,359	18.5
Products, total	1,996	2,644	(24.5)	2,170	2,277	(4.7)
Residual fuel oil	522	785	(33.5)	599	614	(2.4)
Other	1,474	1,859	(20.7)	1,571	1,663	(5.5)
Total imports	8,035	7,625	5.4	7,946	7,319	8.6
Total supply	17,975	18,275	(1.6)	18,076	17,999	0.4
Stock change, all oils	- 192	- 62	XXXX	+ 151	+ 18	XXXX
Refinery Operations						
Input to crude oil distillation units	13,449	13,354	0.7	13,574	13,437	1.0
Operable capacity	15,576	15,909	(2.1)	15,664	15,928	(1.7)
Refinery utilization (%)[8]	86.3%	83.9%	2.9	86.7%	84.4%	2.7
Crude oil runs	13,333	13,156	1.3	13,410	13,234	1.3

Stocks (millions bbls.)	1989		1988[2]	% Change from ...	
	Nov. 30[9]	Oct. 31[9]	Nov. 30	Previous Month	Year Ago
Crude oil[10/]	352.5	342.5	337.0	2.9	4.6
Unfinished oils	111.9	111.1	112.6	0.7	(0.6)
Total motor gasoline**	223.1	222.9r/	221.2	0.1	0.9
Finished leaded motor gasoline*	18.2	20.1	38.2	(9.5)	(52.4)
Finished unleaded motor gasoline*	166.9	164.5r/	145.7	1.5	14.6
Naphtha-jet	6.2	6.0	6.4	3.3	(3.1)
Kerosine-jet	44.3	43.4	39.7	2.1	11.6
Distillate fuel oil	122.5	120.0	128.8	2.1	(4.9)
Residual fuel oil	52.6	49.8	44.0	5.6	19.5
All other oils	174.9	198.1r/	182.9	(11.7)	(4.4)
Total all oils	1,088.0	1,093.8r/	1,072.6	(0.5)	1.4

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January-September, U.S. Department of Energy, October-November, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes Unaccounted-for crude oil, Field production of other hydrocarbons and alcohol, and Processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.